

can be found in the separate halves of any of the other [zoölogical] regions, unless they are so divided as to be very unequal in area or to present very great differences in climate. But the Palæarctic and Nearctic Regions are, roughly speaking, equal in area." As to the latter statement, a glance at a map of these regions shows at once that the land area of the 'Palæarctic' is fully *three times* that of the 'Nearctic.' We are glad to see here, however, a tacit admission that climate may have something to do with the distribution of life. As to the other allegation, if Mr. Wallace will make the same kind of comparison between his Mediterranean and Manchurian 'Subregions' as he makes between his Palæarctic and Nearctic 'Regions,' he will find as high, and probably a much higher, ratio of difference than he so ingeniously figures out for the latter; it being in these areas also, that the chief differentiation of the 'Palæarctic' from the 'Nearctic' occurs. Of course Mr. Wallace would not think of contrasting the northern and southern halves, respectively, of his Nearctic and Palæarctic, owing to the contrast of climate, but should he be induced to do so he would find not only a far greater contrast between them than he now finds between 'Nearctic' and 'Palæarctic,' but that the northern half of the 'Palæarctic' has a far closer resemblance to the northern half of the 'Nearctic' than it has to the southern half of the 'Palæarctic.' (*Cf.* Bull. Am. Mus. Nat. Hist., IV, 1892, pp. 208-211.)

Finally Mr. Wallace works himself up to the claim that the 'Palæarctic' and 'Nearctic' Regions, in comparison with other 'Regions,' "are really exceptionally distinct. They are certainly much more distinct than are the Oriental and Ethiopian Regions, and are probably quite as distinct as are any two conterminous regions." We have already intimated how this conclusion is reached. We will only say in conclusion that we regard the so-called Oriental and Ethiopian 'Regions,' and the Palæarctic and Nearctic 'Regions,' as life areas of the second rank, — not as primary areas, as Mr. Wallace does, — the former together forming an Indo-African Realm, and the latter a North Temperate Realm, both being areas of primary grade, and their components respectively areas of secondary grade. (*Cf.* Bull. U. S. Geogr. and Geol. Surv. Terr., Vol. IV, No. 2, 1878.) Of course, our North Temperate Realm is equivalent to the 'Holarctic' of Newton and some other recent writers, who are unable to see the propriety of longer recognizing the 'Palæarctic' and 'Nearctic' as distinct primary regions. The case of Palæarctic and Nearctic all turns on the question of whether life areas shall be laid out in such a way as to give 'convenient and easily-remembered boundaries,' regardless of other contingencies, or whether they shall be based on the actual conditions of life, and their boundaries be so regulated as to conform to, and illustrate, the facts of geographic distribution.—J. A. A.

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of Madagascar, by Dr. W. L. Abbott. (Proc. U. S. Nat. Mus. XVII, pp. 39-41.)

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## GENERAL NOTES.

*Oceanodroma townsendi* off San Diego, California.—From the time of my introduction to the Sea-birds of Southern California in 1887, I have seen at intervals, a black Petrel, which I quite naturally supposed was *Oceanodroma melania*. They are seen in companies of not more than three, more often solitary, and at quite a distance from land. In August and September, however, they are sometimes seen along the kelp beds near shore and on one or two occasions one was seen in the bay at San Diego, but they never enter the bay except in foggy weather or at night.

July, August and September seem to be the months in which they are most common, though I think I have seen them occasionally nearly all the year.

Owing as much to their extreme restlessness as to their shyness, I could never secure specimens. Not the slightest attention was paid to bait thrown over to them, or to other sea-birds that might be following the boat, therefore the capture of a single specimen off this port on Sept. 1 of the past year was somewhat of a surprise to me.

Starting from the Coronado Islands about 20 miles south of San Diego, on the morning of the above date, I sailed in a westerly direction until noon, when I was about 40 miles from San Diego and almost due west. Several Petrels were seen during the morning but none offered a chance for a shot. *Puffinus gavia* was seen at intervals, but the large flock which is usually to be found in this locality at this season, and which I was in search of, was not to be found. It was decided to look for them nearer shore, and the sloop was headed for San Diego, under a fair but light breeze. When about 30 miles off shore, a flock of not less than 200 Petrels was sighted coming toward the sloop, on a course that would take them about a quarter of a mile south of us. They were flying just above the water in a somewhat loose flock, with a long string of